US Army Medical Research and Materiel

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Test for Quantitative Thrombin Time

This invention provides a method for the quantitative determination of plasma levels of thrombin-specific inhibitor anti-coagulation drugs. It specifically measures thrombin time coagulation using plasma dilutions in the presence of exogenous fibrinogen and thrombin. The plasma dilutions and excess fibrinogen act in concert to eliminate the effects that coagulopathies have on standard coagulation tests. It is suitable for use in clinical hematology laboratories on a routine basis, using commercially available instruments.

Thrombin-specific inhibitors, also known as anticoagulant drugs, are used to treat deep venous and arterial thrombosis. The invention provides a method to measure quantitative thrombin time (QTT) that is not affected by the presence of abnormal plasmas and is sensitive to the presence of thrombin-specific inhibitors. The invention could potentially be used to monitor the effects of anticoagulant therapy by assaying for anticoagulants that inhibit thrombin.

The invention is an improvement over currently available tests which may be non-specific (APTT, standard thrombin [illegible] produce results slowly (HPLC), or are difficult to perform (HPLC, amidolytic or immunologic assays.) The invention was tested using blood from human volunteers. The invention allows the efficacy of newly developed thrombin-specific inhibitors to be readily monitored in clinical hematology laboratories.

Features and advantages:

- **Results are more specific than the APTT method**
- **Requires minimal training time**
- **Uses standard clinical laboratory instruments**
- **Provides quantitative thrombin time**
- **Results not confounded by coagulopathies**

Patent Status

Patent No.: 5,476,771 **Available from:** www.aspr.gov **Issued:** December 19, 1995 **Docket No.:** WRAIR 92-09

Point of Contact

Dr. Paul C. Mele
Director, Office of Research and Technology Applications
USAMRMC, MCMR-ZA-J
504 Scott St., Ft. Detrick, MD 21702-5012
E-mail: usamrmcorta@amedd.army.mil
Voice: 301-619-6664/2032/7219 Fax: 301-619-5034

KEYWORDS: quantitative thrombin time; abnormal plasmas; anticoagulation drugs

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